

REMARKS/ARGUMENTS:

Reconsideration of the above identified application is respectfully requested.

In the Office action dated July 1, 2004, claims 1-14 are rejected under 35 U.S.C. §112, second paragraph as being indefinite. Claim 1 is rejected under 35 U.S.C. §112, first paragraph for lack of written description and enablement. The specification is objected to under 35 U.S.C. §112, first paragraph as failing to provide an enabling disclosure. Claims 1-14 are rejected under 35 U.S.C. §112, first paragraph for the same reasons set forth in the objection to the specification. Claims 1, 4, and 5 are rejected under 35 U.S.C. §102(b) as being anticipated by Dorson et al. (Journal of Fish Diseases, 1978, 1:309-320; hereinafter "Dorson").

Applicants also acknowledge safe receipt of the "Notice of References Cited" (form PTO-892).

In response to the objection and rejections, Applicant has amended claims 1, 3, 4, 6, 8, 10, 11, 13, and 14; cancelled claims 2 and 9; and added new claims 15-18. Support for the amendments and the new claims can be found throughout the application as originally filed, in particular, the original claims. No new matter has been introduced.

In addition, Applicant has amended the specification to correct some minor typographical errors, including changing the term "berfin flounder" to -- barfin flounder -- and spotted wolfish to -- wolfish --. Furthermore, in claims 7, 14, and new claim 18, in addition to administering vaccine via oral administration, and intraperitoneal or intramuscular injection, administration by immersion method is added, which is supported by the specification on page 9, lines 1-8. No new matter has been introduced.

Applicants respectfully submit that the objection and rejections have been overcome for reasons set forth below:

Objection of the Specification

The specification is objected to for the reasons that the immortal cell line from *Epinephelus coioides* is not fully disclosed, or shown to be publicly known or freely available. Applicant respectfully submits that the biological material was deposited on October 20, 1999, at the American Type Culture Collection (ATCC) and the submissions of "Declaration of Deposit of Biological Material" and a copy of the ATCC deposit receipt of the GF-1 cell line (PTA-859) accompanying this response have overcome the objection.

Claim rejections under 35 U.S.C. §112, second paragraph

Claims 1-14 are rejected as being indefinite.

In response to the rejection and to expedite the prosecution of this application, Applicant has amended "non-infective" in the claims to --non-pathogenic--. Applicant respectfully submits that the amendments have overcome the rejection.

Claim rejections under 35 U.S.C. §112, first paragraph

Claim 1 is rejected for lack of written description and enablement. Claims 1-14 are rejected for lack of enabling disclosure as set forth in above mentioned objection to the specification.

In response to the rejection, Applicant has amended claims 1 and 8 to limit the claims to a vaccine for nervous necrosis virus (NNV) (claim 1) and a method for immunizing susceptible fish against NNV (claim 8). In addition, Applicant has converted claim 4 from a dependent claim to an independent claim, claiming a vaccine for infectious pancreatic necrosis virus (IPNV); and amended claim 10 to claim a method for immunizing susceptible fish against IPNV.

As acknowledged by the Examiner, it is acceptable that the scope of the claims is limited to NNV and IPNV, because the specification provides sufficient disclosure of IPNV and NNV as the vaccines. (See Office Action at 3). Thus, Applicant respectfully submits that the amendments have overcome the written description and enablement rejection of claim 1.

Claim rejections under 35 U.S.C. §112, first paragraph

Claim 1 is rejected under 35 U.S.C. § 112, first paragraph, for not enabling. The Examiner opines that the claim can be interpreted to encompass virtually any fish virus vaccine, but none of which (with the exception of IPNV and NNV) are adequately supported by the disclosure. (See Office Action at 3).

Because Applicant has amended claim 1 to claim only a vaccine for NNV, and converted claim 4 to an independent claim to claim a vaccine for IPNV, as set forth in the reasons for overcoming the written description rejections (*supra*), Applicant respectfully submits that the rejections have been overcome.

Claim rejections under 35 U.S.C. §102(b)

Claims 1, 4, and 5 are rejected as being anticipated by Dorson.

In response to the rejection, Applicant has amended claim 1 to claim a vaccine for NNV. Thus, the issue over claim 1 and its dependent claims is moot.

With regard to claim 4, which is converted into an independent claim which claims a vaccine for IPNV, Applicant respectfully traverse the rejections for the following reasons:

To anticipate a claim, each and every element of the claim must be taught, either expressly or inherently, in a single prior art reference.

Dorson teaches a non-pathogenic variant of IPNV obtained from a Rainbow Trout Gonad cells (RTG-2). IPNV is known to be capable of infecting trout and salmon species (generally known as salmonid species). See Pilcher et al., Crit. Rev. Microbiol. (1980) 7:287-364, which is cited by Applicant on page 2 of the application. Thus, the infection and propagation of IPNV in a trout cell line is natural and non-unexpected.

Applicant discovers an immortal *Epinephelus coioides* cell line GF-1 (ATCC Deposit No. PTA-859) derived from grouper, which is not a fish species which is known to be susceptible to IPNV infection. Yet, as demonstrated by the Applicant, this cell line not only is susceptible to IPNV but also propagates a high titer of IPNV. Since Dorson never teaches that the GF-1 cell line nor suggests that an immortal cell line from grouper can mass produce IPNV, the amended claim 4 is not anticipated by Dorson.


Applicant therefore respectfully request that the rejections be withdrawn.

In view of the foregoing, the objection and rejections have been overcome and the claims are in condition for allowance, early notice of which is requested. Should the application not be passed for issuance, the examiner is requested to contact the applicant's attorney to resolve the problem.

Appl. No. 10/004,432
Amdt. dated November 1, 2004
Reply to Office action of July 1, 2004

Respectfully submitted,

Date: November 1, 2004

A handwritten signature in cursive script that reads "Fei-Fei Chao". The signature is written in black ink and is positioned above a horizontal line.

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